PLAIN AND PANCY

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THE

Full Details of the Earthquakes, Mud-flow, Shower of Ashes and Lava Stream, as seen by Eye-witnesses.

By the Editor.

The recent volcanic eruption on Mauna Loa has siructed so general interest, that we have collated the principal facts relating to it, and the various accompanying phenomena, so as to embody the whole in as brief a newspaper article as is possible. Had we the facilities to illustrate our narntire with sketches taken on the spot, it would doubtless add to the popular interest; but not being able to do so, our readers must be content with the simple unadorned statement. Before dewribing the late eruption, it may be well to state sme facts, which, though well known here, are stone, frame and thatch house throughout Kau, not remembered abroad

The only island of our group which has ever, within the memory of man, been known to be in state of volcanic action, is the largest, Hawaii. All the others are of more ancient formation : while Hawaii is still incomplete. It consists of four principal mountain divisions, -the Kohala old formation, Mauna Kea, an extinct volcano, Manna Honbalai, on the western coast, which has at been known to be in action since 1801, and Morna Lon, which is now the only active volcano on the group. Their heights, as measured by Wilkes, are: Mauna Lon, 13,760 feet; Mauna Kes, 13,950 feet, and Hualalai, 10,000 feet.

The following is a list of the principal erupfions that have occurred on Mauna Lon and Huadalai since the discovery of the group by Capt. Cook in 1778 :

1.-In 1789, there was an eruption of Kilanea. in which ashes, sand and pumice stone were show-ered over the country, and one-third of the army of Keona destroyed. No details are known.

2.-In 1801, Mauna Hualalai was in action for the last time, the stream flowing in a westerly direction to the sea, and extending the coast line. emption may have originated near the summit, but buel is located near the western base of the mounuis, six miles from the present shore, and below the contain road, from which it is quite conspicuous. 1-In 1823, there was an eruption of Kilauca distant, directly below the crater.

4 .- In 1832, there was an eruption both of Kibeen and of the summit erater of Mauna Loa. The latter occurred on the 20th of June, and the lava fowel out of several vents on the side of the mounhin, probably the northern, as the stream was seen from Maui. This continued for two or three weeks, and is supposed to have entered Kawaihae Bay.

5 .- May 30, 1840 an eruption took place in Pans, below and out of Kilauca, flowing into the

6 .- January 10, 1843, a lava stream issued from the summit of Mauna Loa, north of the old erster of Mokuaweowco. It took a northerly course counts Mauna Kea, after reaching which, the stream divided, one running for a few miles easterly towards Hilo, and the other north-westerly towards Kawaihae. 7 .- February 15, 1852, an eruption broke of the 10th. It sounded precisely as if a cannon

out very near the source of that of 1845, perhaps a mile or two east, and the stream following the same ourse as its predecessor, till it reached the low land, when it ceased, after continuing only twenty-four hours. Two days later it burst out some fifteen miles further south-east, directly opposite Hilo, and at an elevation of 10,000 feet. It continued flowing for about one month, running a distance of thirty miles, but did not reach the sea-

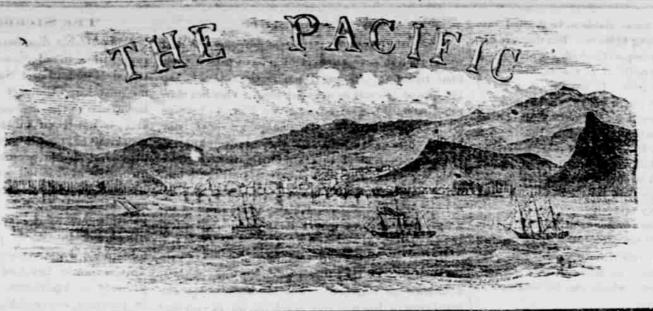
8 .- On the 11th of August, 1855, occurred the most extensive eruption on Mauna Loa that has ever been recorded. The light was first seen on the tery summit, and the stream undoubtedly originated in the old summit crater of Mokuaweoweo, and taking a north-easterly direction, ran down towards Maura Kes, after reaching which it was turned towards Hile. For thirteen months it continued to ty-five from Waiohinu. About midway beflow, filling up ravines and valleys in its course till it came within three miles of Hilo, when it providentally ceased flowing. The extent of this eruption may be judged from the fact that it has been estiusted to have flooded an area of 300 square miles, and the quantity of lava thrown out was over thirty-eight billions (28,000,000,000) of cubic feet.

9 .- On the 23d of January. 1859, the last great eruption prior to this year, took place on the aorth side of Mauna Loa, at an elevation of 8,500 Set. The spouting lasted fifteen days, from a crater about 500 feet in diameter, and the flow continued for six months, reaching the sea fifteen miles south of Launihae. This eruption, owing to its accessibility, and long continuance, was visited by hundreds of foreigners, including ladies, and probably furnished the most beautiful view of an eruption that has ever oc-

These nine eruptions are all that are known to out, with a terrific explosion, a stream of red have emitted lava streams during the last ninety mud and water, which was driven by the exployears, though it should be added that, prior to sion a distance of fully three miles. This stream 1820, eruptions may have occurred of which no was ejected simultaneously with the heavy earthrecord has been left by foreigners. The summit quake from both sides of the valley. Immediatecrater of Mauna Loa has often been temporarily ly under and near the fissures are heaps of stones streams. To furnish a detailed account of the foregoing is not our present purpose, but merely to inmates left unharmed, while the mud and stones give an enumeration of them. The cruption of the flew over and around them. Eighteen hundred present year nakes the tenth that has occurred feet from the opening, the pile of mud commences during ninety years, averaging one every nine and extends a distance of three miles from the years, which may be assumed as the longest period required for the great fires of Mauna Lon to mile, and from two feet at the outer edges to gather force sufficient to burst forth in their irre- twenty and thirty feet deep in the center. Where pressible condict. We come now to the

# Eruption of April, 1868.

The first symptoms of any unusual commotion on Mauna Lon were noticed on the morning of March 27th, about 54 o'clock, when from the whaleships at anchor in Kawaihae harbor, a dense eduum of smoke was observed to rise in one massive pillar to the height of several miles, accompanied with a bright reflection, showing that fire existed in the great crater of Mokuaweoweo. In a few hours this pillar cloud dispersed and passed off, and no light was seen on the



SIX DOLLARS PER ANNUM.

miles on hour, we must say that it is hardly pos-

sible to conceive of a stream flowing with greater

rapidity than the cataract and river we witnessed

April 10. It reminded us of the Connecticut River in a spring flood, with the stream filled

with ice and rushing over the rapids at an impet-

nons rate. The speed is more likely to have been

twenty-five miles an hour than twelve. Where it

ran down the precipice, at an angle of about thirty degrees, it was more narrow and rapid than

lower down, where it spread out broader. This

was the only stream which reached the sea, and

flowed into it a little west of the south point of

the island, at a place called Kailikii. It lasted

only five days, the eruption ceasing entirely on the night of the 11th or morning of the 12th.

filled with smoke so dense that the sun appeared

like a ball of fire, and the whole island was

shrouded in darkness. This smoke came from the

rent or crater, and was highly charged with sul-

phur. As it spread over the island, it carried a deadly blast to vegetation, and the leaves of the

more tender plants and vegetables were withered

and died. It did not kill the plants in any sections,

Opposite the point of coast where the lava

reached the sea, a small conical island was

thrown up in the sea, about a mile distant from

the shore, consisting of mud and sand, and emit-

ting steam from its summit. This island has be-

come joined to the main land by the lava flowing

from the new eruption. As the lava entered the

sea, clouds of steam and smoke rose up, and flames

of blueish fire were emitted, rising from the water

was highly charged with sulphur gas and elec-tricity, and frequent flashes of lightning were seen

directly over the lava stream, accompanied with short claps of thunder. These flashes were also

observed less frequently further up the mountain.

ering a space of four miles wide and long.

was followed again by the liquid or pahoehoe,

which ran into the sea, and continued till the

eruption ceased. About 4000 acres of good pas-

ture land were destroyed, besides which the lava

On the night of the 6th, prior to the erup-

tion, there was a shower of ashes and pumice

stone, which came from this crater, and covered

each way. Generally the ashes were not more

than one or two mehes in depth, but in some pla-

ces were found to be fifteen. The pumice stone

was very light and appears to have been carried

by the wind a great distance. Pieces two and

three inches in size floated ashore at Kealakekua

The roaring of the crater was a novel feature to

those who had never visited an eruption before.

It was caused by the rocks thrown cut from the

crater, and the grinding or crushing process of the

aa as it moved along. This aa flow appears composed of half-melted lava, and as it is pushed

along piled up sometimes fifty or even a hundred

feet high ; presenting the appearance of a railroad

olling. This stream generally moves along slow-

moves from one to four miles an hour. What

the liquid pahochoe, which flows like water, is an in-

(which appears like half melted stones and dirt

by the lava, Mr. Brown lost about one hundre

roughly set down to at from ten to fifteen thousand

dollars. The houses destroyed were not expensive,

The lava thrown out during this cruption has

been of a more porous nature than in most of the

late ones. Some of the specimens we have seen

pumice stone, which preceded the lava flow, was

dso something unusual in Hawaiian cruptions,

and showed the eruption to possess a new char-

acter, perhaps the existence of more than

Some have wondered why the flow ceased so sud-

denly-continuing only five days. The cause is

probably this: so soon as the steam, which has

shocks, and in raising the lava so near to the top

of the summit erater that it lightened up the clouds

above it, found vents, the eruption lost much of

its power, and allowed the lava to rapidly subside,

and the pressure by which it was thrown out

The quantity of lava erupted has not been prob-

ably one-tenth what was discharged in 1859, but

the quantity of steam, gas and smoke discharged

during one week must have exceeded what escaped

smoke was comparatively small. We judge so

from its density over all the group and for a thou-

sand miles off. This has not occurred in any late

previous eruption to the same extent. The infer-

ence therefore may be drawn that when an un-

usual quantity of gases and smoke escape, a less

amount of lava will be discharged; and vice versa,

when the quantity of smoke is small the amount

Respecting the weather during March, it may

be added that it was of the same stormy character

as has prevailed all over the western hemisphere,

including the north and south Pacific. The

quantity of rain that has fallen on the mountains

of Hawaii has also been large, but to what extent these have affected the internal fires, and produced

the earthquakes and eruptions, must remain only

a matter of conjecture. The thermometer during

the same month showed no unusual fluctuation, ranging from 68° and 70° at sun-rise, and 83° to

As the principal interest was the discovery of the

main source of the stream, we at once went to that

part of it, where according to common report, the lava had issued. A very light dark brown glistening

pumice stone lay scattered about long before the lava

was seen. Near the flow it increased so much that

the animals feet sank deep into it at every step. We

soon reached the ridge of a hill from which we sur-

veyed the place where, according to our guide's ac-

count, the fountain of lava had been seen. This

North and South. From the western one of these hills

Mr. Whitney had witnessed the eruption. From the

eastern hill we in vain looked for a crater or cone.

We did not make out any indication of the character

of the eruption until we had crossed nearly three-

fourths of the stream, which here is not far from a

mile wide. Then our attention was attracted by an

84° at noon, with considerable regularity.

of lava is increased.

during ten weeks in 1859, when the volume

een the active agent in producing the earthquake

steam and gases in its composition.

are exceedingly light. The shower of brownish

the main loss being in land and stock.

Bay forty-five miles distant.

ran over an immense district of worthless land.

During the night we were at the volcano, the air

to a height of from ten to twenty feet.

that we could learn.

During its continuance, the atmosphere was

At about 10 A. M., on the 28th, a series of

earthquakes began, which continued at intervals

with varied severity for over a month. At Kona as many as fifty or sixty distinct shocks were felt

in one day, at Kau over three hundred in the same

time, and near the great crater of Kilauea, the

earth is represented as having been in a constant

quiver for days together, with frequent vigorous

shocks that would send crockery, chairs, lamps,

&c., spinning around in not a very pleasant way.

Mr. J. Porter, the proprietor of the " Volcano House," says he endured this for several days, as

long as he could, till one night about 11 o'clock

Pele sent one of Rodman's twenty-inch shot, with

rectly under his bed, when he jumped and ran,

where or how he hardly knew, but he found him-

One can readily imagine the state of nervous

excitement produced by the continual swaying of

the ground, with an occasional shock like that pro-

duced by a heavy rock striking the crust beneath

him. A lady, who spent two weeks in this shaky

region, says that she put her car down to the earth

during one of the "ground swells," and could dis-

tinetly hear the rushing and roaring of the lava

waves beneath the surface, like the surging of

waves in a storm. It was such a scene as un-

strung the firmest nerves. Residents of Kau in-

form us that over two thousand distinct shocks oc-

curred there between the 28th of March and the

11th of April, averaging over 140 a day for two

The earthquakes continued to increase in sever-

but desolation and rain throughout the district.

noise. We experienced one of these "thumping"

The Mud Eruption at Kapapala,

has heretofore occurred on the islands, that we

give a minute description of it. Kapapala is the

residence of Mr. Charles Richardson in Kau,

about fifteen miles from Kilauca crater, and twen-

tween Mr. R.'s residence and that of Judge Ly-

a native thatch house was left standing and the

opening, varying in width from half a mile to one

it crosses the road it is thirty feet deep and half

This mass of mud was thrown out in less

than two minutes, as if discharged from two huge

batteries of ten thousand twenty-inch Rodman

guns, planted on each side of the valley. At

its further extremity is a pile of large boalders

and stones, that appear to have been driven before

the powerful explosion. As it swept through the

valley, it destroyed men, animals and trees alike,

Thirty-one lives were lost, and between five hun-

dred and a thousand head of cattle, horses, goats

and sheep, some of which were just at the moment

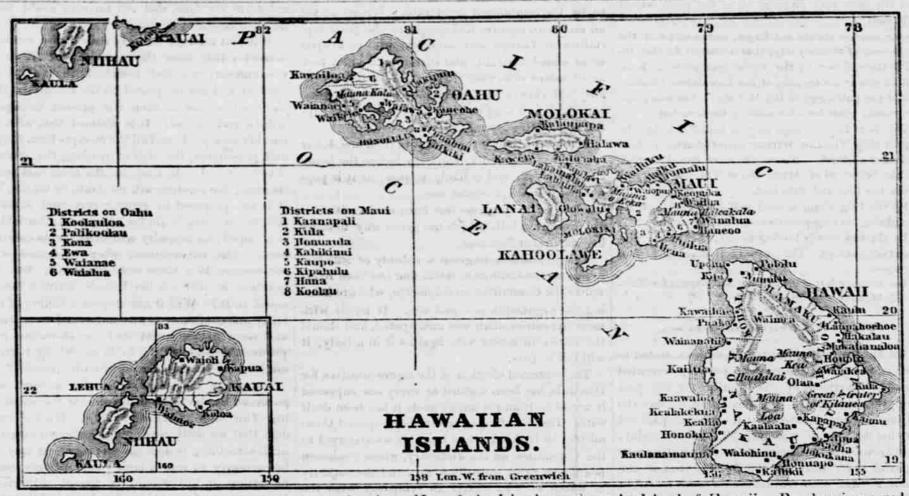
afternoon of April 2, occurred

quently seen crossing the valley.

self after a while in the woods safe and sound.

a well-directed aim, that struck the ground di-

HONOLULU, HAWAHAN ISLANDS, MAY 9, 1868.



line from the letter L in the name "Mauna Loa," to the shore at "Kailikii," at the left of the south point of the island, the extent

ity from March 28th till April 2d, when about four o'clock in the afternoon, one took place that such as is so often found in the group. In some Ninole, during the inundation of that place. At the lower down and further south. shook down every stone wall, and nearly every fern leaves, &c. Trunks of trees are found standing, with their tops shot off by the explosion.

"The force with which these streams were ejected from the hills (says a writer in the Gazette) and the swife, ran out of the house and started for the hills above, but remembering the money he had in the house, the man left his wife and returned to bring it away. Just as he had entered the house the sea broke on the shore, and, enveloping the building, first washed it several yards inland, and then, as the wave receded, swept it off to sea, with him in it. Beand did more or less damage in every part of Hawaii, while it was felt very sensibly on Maui, Molokni, Oahu and Kauai, the latter island 300 miles distant from the crater. Every church m the district named was destroyed, with the perhaps a single exception. The shock was so witnesses to have been at the rate at least of a mile a minute. The rapidity was so great, even severe that it threw persons from their feet, and severe that it threw persons from their feet, and severe that it threw persons from their feet, and severe that it threw persons from their feet, and severe that it threw persons from their feet, and severe the flow that numbers at the very extremity of the flow that numbers at the very extremity of the flow that numbers are receded, swept it off to sea, with him in it. Be-pasturage for herds of cattle, horses, sheep and ing a powerful man, and one of the most expert swimmers in that region, he succeeded in wrenching off a firm houses of Capt. Robt. Brown, who lived board or a rafter, and with this as a papa heet-nalu, there with his family. Near by were the dairy horses and animals were served in the same at the very extremity of the flow, that numbers (surf-board), he boldly struck out for the shore, and establishment of C. N. Spencer, and other dwellway. A gentleman riding on horseback in Kau of goats which were fleenig for life were overtaken banded safely with the return wave. found his horse lying flat under him before he by it, and found a short time afterwards by Mr. could think of the cause. The effect of the shock Richardson, sticking by their hind legs in the seems almost incredible, were it not that he is now was instantaneous. Before a person could think, mud."

he found hanself prostrate on the ground. The Out of the hole where the mud was exploded, who saw him. and the roof fell flat-all the work of ten seconds. the only stream in the district. It will be all the Judge Lyman describes this shock as follows: more acceptable as all Mr. Richardson's cisterns M., we experienced the most fearful of earthquakes! quake which produced the rivulet.

First the earth swayed to and fro north and south, Some of the natives present at this eruption then east and west, round and round, then up state that the mud thrown out was cold, others and down and in every imaginable direction for that it was hot, and that steam and smoke issued several minutes, everything crashing around us; from the rent after the eruption. It is quite probthe trees thrashing about as if torn by a mighty able that the earthquake created a subterranean rushing wind. It was impossible to stand, we rent, which brought this confined body of water feet to keep from rolling over." It left nothing duced the explosion, without heating the mass

Respecting the course or direction of the shocks, Mr. Richardson's loss in cattle, horses, cisterns of flow of lava, which reached the sea, twelve miles we have made many inquiries. Those felt here on and houses has been estimated at fifteen thousand Oahu have mostly been undulating, with a wave- dollars, which is probably the largest sustainlike motion. On Hawaii they had three distinct ed by any one party. In the valley adjoining characteristics—the undulating, with the motion there was also a small land slide, but not on generally from the northwest to southeast-see- the scale noticed above. The soil thrown out is ond, the sudden short, sharp, jerking shock, oc- rich, and will soon be covered with dense vegetacupying hardly two seconds,-and third, a thump- tion, especially should the fine stream remain per-

## The Earthquake Wave.

ing, like a boulder or rock thrown suddenly against the crust of earth beneath you, and as suddenly falling down. Each kind was frequently quake wave, which caused great destruction of quakes and tide wave was about one hundred. accompanied with a rattling noise, like distant life and property along the South-cast coast of After these events on the 24 of April, earththunder or artillery, more or less distinct. The lighter shocks generally had no accompanying shocks, while asleep near the crater on the night ball had struck the floor under us, and then rolled along the verandah. It started us out of a sound could see it. After the hard shaking had ceased island. and all along the sea-shore from directly below us, A company of eight or ten, including the writ- tion, but generally towards the south. Somesleep. At Kau the motion was often from south to Panalau, about three or four miles, the sea was er, took passage in the steamer for Kona on the times the fountains would all subside for a few Simultaneous with the heavy earthquake on the was covered by the sea," which is so singular, and so unlike anything that

a day or two before the wave occurred, communi- proved to be a most brilliant display. eates the following to the Gazette.

"At Keauhou, the following results of the earththe first shock occurred, precipitating an immense amount of earth, stones and boulders down the pali We left Kealakeakua Bay on the rethe afternoon. While descending the pali to Keauhou. man at Keaiwa, six miles west, are two beautiful amount of earth, stones and boulders down the pali after him. Escaping these, he arrived on the plateau the 9th of April, and after a slow, tedious ride of dred to eight hundred feet wide and twenty feet below the pali, and looked in the direction of the vil. valleys, that extend from the road a couple of miles, which every observing traveler must have below the pali, and looked in the direction of the vilnoticed. They were studded with groves of tutui age of Apua, but not a house was to be seen ! He and other trees, and covered with a rich carpet of the softest maniania grass. Herds of sleek cattle were constantly browsing or enjoying the shade of the cool groves. Native buts were scattered here and there, and horsemen were fre- that immediately after the earthquake the sea had night we could hear the distant noise of the crup-This was the scene of the "mud flow." Just at the instant the earthquake occurred, the sides of the valley were rent, and from the fissure burst

> ed as if an immense quantity of lava had been dis-"At Panaluu, at the moment of the shock, it seemcharged into the sea some distance from the shore, for and proceeded on to the flow. lmost instantly a terrible commotion arose, the water As we approached it the rumbling noise he-

> had tumbled into the sea, and people coming from mountain side to the sea. thence are now obliged to take the mountain road. We hurried on and reached the flow shortly

Swain's tannery was formerly situated. Fire had smooth pahochoe variety, from ten to twenty the inhabitants of Kau during the heavy earthbeen seen in the mountains above, but none had come feet deep, and partially cooled over, though flames, quake shocks. down on the low binds between Kahuku and Waiohi-nu when they left, on Monday morning. A large We stood on it, though it was hot enough to burn since reading accounts of former eruptions, in

This mud, or now more properly dirt, as it has below Kahuku, with no bottom visible from the brink ted some ten miles up the mountain, and came become dry, consists of finely pulverized red soil, of it, and emitting quantities of sulphuric vapor.

"I have just been told an incident that occurred at ceased flowing, the craption having opened a vent

places it is mixed with stones, tranks of trees, time of the shock on Thursday, a man named Holoua, fern leaves, &c. Trunks of trees are found stand- and his wife, ran out of the house and started for the he rode to the shore, (50, perhaps 60 feet), the feat off to the sea, and dotted with hillocks. alive to attest it, as well as the people on the hill-side

"Mr. George Jones met a heavy loss at Keauhou large stone church of Waiohinu went down in the now issues a stream of clear, cool mountain water, by the inundation. Besides the houses and fixtures same way-a spiden jerk, the walls crumbled in which it is hoped will continue to flow, as it is which were swept away by the sea, he also lost some

"Hilo and Puna have suffered, so far, comparavillages, and the earthquake razed the inland places. passed over it.

"The number of people now known to have perished between Ninole and Keaiwa, (Punalun and Hillian full blast. Four enormous fountains, apparonamoa included), is 47; at Kawaa, 7; at Honuapo, had to sit on the ground, bracing with hands and in contact with the lava fires below, and thus pro- 27; total, 81, besides a number of the pulu pickers not yet advised, neither have I heard the number of ally spouting up from the opening. These jets those who perished at Kaalaala."

This was one of those sad catastrophies where which few witnessed. From all we can gather from a mile in length. the above and other sources, the wave rolled in along the Kau coast from forty to sixty feet high, along the Kau coast from torty to sixty feet high, plateau, a distance of two or three miles, then and receded five times, decreasing in force each following the track of the Government road, ran successive time. It covered the tops of the lower cocoanut trees, swept inland from five to six hun- degrees, then along the foot of the pali or preci dred yards, and destroyed nearly everything mov- pice five miles to the sea, the stream being about Immediately following the above explosion and able, including the trees growing along the shore. eight or ten miles to the earthquake, there occurred a tidal or earth- The total number of lives lost during the earth-

Hawaii, from Keaubou to Kalae, the most south-ern point of the island. Judge Lyman, whose esidence is six or eight miles from the sea, de- when a lava eruption took place above Kahuku, scribes the first view of it as follows: "Some one seven miles northwest of Waiohinu in the district weighing an hundred tons, to a height varying pointed to the shore, and we ran to where we of Kau, which is the most southern district on the red-hot rocks completely filled the air, causing

to Panalau, about three or four miles, the sea was er, took passage in the steamer for Kona on the boiling and foaming furiously, all red, for about 6th of April, and arrived at Kahuku on the stones and liquid lava reached a thousand feet in an eighth of a mile from the shore, and the shore loth, three days after the cruption broke out. Stones and liquid lava reached a thousand leet in height. The grandeur of this picture, ever vary-We consequently had the finest opportunity that ing like a moving panorama, painted in the rich Mr. Fornander, who passed through the district could possibly have been sought, for seeing what est crimson hues—no person can realize unless he

the night of the 7th, the whole island of Hawaii tumbling like a swollen river, and bearing along quake on Thursday have been reported. Mr. Stack- was seen brilliantly illuminated, the overlanging in its current large rocks that almost made the ole, who had charge of the place, had been up to the clouds reflecting the glare of the fires beneath, lava foam, as it dashed down the precipice and oleano House during the day, and was returning in and a stream of lava was seen from the vessel, a

twenty-seven miles, over lava clinkers, reached deep, with a speed varying from ten to twenty-fice then role down to the edge of the plateau, from whence Keanhou ought to have been in sight, but nothing of it could be seen. Descending to Paliochoe, he met the men working at Keauhou running up tween the bay and Waishing, and distant from bave floated on to the sea unscathed, or melte mauka, who reported that nothing was left of Keauhou; the lava flow about thirteen miles. During the into molten lava, and vanished from sight? rushed in and swept off every dwelling and store- tion-a peculiar rumbling, so different from a thousand-fold more beautiful, the crimson of house, and all their contents, and that they had bare the roar of the sea or any other noise, that, to the fountains and the river doubly rich and brilescaped with their lives. There were some 167 wake up in the night and listen to its unaccount- liant, the larid glare of the dense clouds and bales of pulu in store, ready for shipment, all of able utterances, tended to create fear with those steam that overhung us and the roaring of the which was swept away. They represent that the sea who for the first time heard it. In the morning, crater and cataract were fearfully grand and awewhich was swept and. The least time heard it. In the morning, which the two basaltic columns indicating several of the party decided to turn back to Keather the conflagration of all several of the party decided to turn back to Keather the conflagration of all hakeakua, and returned without seeing the grand London or Paris, as the whole scene extended sight before us. The others, seven in number, over a distance of ten miles. Add to this the

remembers wave was sweeping up on the shore, and of approach to some great disturbance of nature grand as this. when it receded, there was nothing left of Punaluu! more frequent. The ground was covered with Not a house remains to mark the site of these places, with it. On reaching an eminence five miles to this rupture, which continued to except at Honuapo, where a small "hale halawai," from the stream, we found a group of forty or down, as the molten lava acted on it. except at nonuapo, where a small " hale halawai," fifty natives, who were waiting to cross over to the brow of the hill, above the village, stood on Friday last. The large command grove at Honuapo, was Kau, and had been here several days. From this

after noon, where, from a ridge to the west of it, and sneep, some of the farm house. A large we stood on it, though it was not enough to our sheet, and a little further on, found which it is claimed that the lava flowed forty ourselves on the brink of a deep gap in the lava being driven across the valley to the farm house. hole, sixty feet in diameter, had opened on the flat

Two kinds of lava were erupted during the flow. It commenced with a stream of smooth, glossy lava, known here as the pahochoe, which was followed by the thick, dirty kind called aa. Kahuku farm was nearly covered with the latter, which branched out into four wide streams, cov-

Beyond this valley, about a quarter of a mile distant, was the pali of Mamala, a steep preci-pice, which runs from the mountain to the south point of Hawaii, and forms the west boundary of the table land of Kahuku, a beautiful level plateau, covered with tall grass, affording excellent pasturage for herds of cattle, horses, sheep and sider the predigious height of the breaker on which running as far as Waiohine, and sloping gently

On Tuesday afternoon, April 7th, at 5 o'clock. a new crater, several miles lower down than that referred to, and about two miles back of Captain Brown's residence, burst out. The lava stream commenced flowing down the beautiful grass-covered plateau, towards and around the farm house, Saturday last, he chartered the schooner Old Fellow, and the inmates had barely time to escape with the clothes they had on, before the houses were all "Thursday, (April 2d,) between four and five P. have been totally destroyed by the same earth-Fortunately all the inmates escaped safely to tively least, though the shocks were severe and fre- Waiohinu, but how narrow the escape was, and quent, and still continue, and the damage to houses how rapid the stream flowed, may be inferred from the fact that the path by which they escaped and property is very large. But poor Kau is almost from the fact that the path by which they escaped wholly destroyed. The sea washed away the coast was covered with lava ten manutes after they

> ently distinct from each other, and yet forming a line a mile long, north and south, were continu were blood-red and yet as flaid as water, ever varying in size, bulk and height. Sometimes two would join together, and again the whole four distance lends enchantment to the scene," and would be united, making one continuous fountain

From the lower end of the crater a stream of very liquid, boiling lava flowed out and down the down the precipice at an angle of about thirty

This was the magnificent scene, to see which we had hurrielly left Honolulu, and had fortunately arrived at the right moment to witness, as opened before us in all its majestic grandeur a great noise and roar, and flying in every direc

From this great fountain to the sea flowed a On the passage to Hawaii in the steamer, on rapid stream of red lava, rolling, rushing and through the valley into the sea, surging and roaring throughout its length like a cataract, with a power and fury perfectly indescribable. It was Kapua towards night, where we slept in a thatch miles on hour. As a huge boulder floated down,

Night soon came, and with it the scene becam flashes of lightning and the sharp, quick claps of thunder, and the reader can imagine that a scene was before us that well repaid us for our opporboiling and tessing furiously. Shortly afterwards, a came more and more distinct, and the evidences tune visit. We never expect to see another so

have passed away without being followed by lava first, and beyond these a vacant space, in which the crater since it ceased flowing, and find that it trees-all but two-were washed away. The number them we found they were fragments of pumice consists simply of a rent or fissure in the earth, of lives lost is not yet ascertained. All who were out stone, which had been carried by the wind a dis-fishing at the time perished, and many of those ashore. tance of over ten miles. Mixed with these cin-A big chasm opened, running from the sea up into ders was Pele's hair, which we found floating in able that it extends several miles farther on, as the mountain, down which it is said lava, mud, trees, the air, and when it was thick we had to hold the mountain continues smoking in a line ten ferns and rocks were rushing out into the sea.

"The same wave that swept away Punaluu, also our handkerchiefs to our nestrils to prevent inhaling it. Our clothes were frequently covered properly speaking, but the lava flow was confined haling it. destroyed the villages of Ninole, Kawaa and Honnapo, with it. On reaching an eminence five miles to this rupture, which continued to open lower

washed away, as well as that at Punaluu. A part of point dense clouds of smoke could be seen rising therefore a side view, and probably the finest and the big pali at Honuspo, on the road to Waishinu, all along the course of the lava stream, from the nearest that could possibly have been had. One ejected with a rotary motion, and as it ascended the air, both the lava and stones rotated always upper portion of the lava stream fills a broad valley The sea swept Kaalualu on Thursday last, as it the whole scene opened before us. Between us in one direction towards the south. In this reand swept Honuapo and the other places along the and the crater was a valley five hundred yards spect it differed from that of 1859, which we were more than 300 feet high, both running almost due coast, washed away several houses and killed a number of people—how many, is not yet known. The earth had been shaking almost constantly and severely every day and night. A large land-slide had occurevery day and night. A large land-slide had occur-red on the west side of Waiohinu valley, near where

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about 20 feet wide, but narrowing and continuing it-self northward. We walked round the southern end self northward. We walked round the southern end of the gap and followed it up on the West or lee side. Before long we came to another enlargement of the fissure like the former, emitting hot air charged with acid gases which drove us back. Still continuing our march on the West side of the fissure as close as the hot gases would allow, we came in sight of a pretty mintature cone, built up most regularly of loose socria to the height of twelve feet, and located right over the fissure. Is encloses a chimney crater of about 12 feet in diameter, with perpendicular sides, the depth of which could not be ascertained. Hot gasses issued in abundance. On account of the exhalation of the latter we were obliged to cross the chasm, on the latter we were obliged to cross the chasm, on the bridge formed by the cone, to the windward side, along which we followed up steadily.

The direction of this fissure was S. 6 degrees W. and N. 6 degrees E. The Dr. traced it up the mountain about three miles, when he was obliged to desist, owing to the covered fires, smoke and heat. In one place he came up to a cataract of lava coming down the precipitous side of the hill, a height of at least 300 feet.

### Kllauea Craver.

During the great commotion on Hawaii, the ancient crater of Kilauca has undergone changes, a record of which will interest all who have ever visited it. The "great earthquake" occurred at 4 P. M. on the 2d of April, which was followed by another of nearly equal force at 12.30 on the morning of the 4th, when the fires began to die out and the lava in all the lakes in it to subside, till on Tuesday following there was no sign of fire or smoke, showing intimate connection with the Kahuku eruption.

Prior to the 4th, it had been unusually active, and the entire western half of the erater is represented as having been in commotion-some accounts state that it was a mass of tenten lava, which has not been the case since May, 1840. On the 4th, the lava began to be withdrawn, and the portion which had been in recent action subsided. so that it is now three or four hundred feet lower than it was a month before. From the volcano house one would not readily observe the extent of this subsidence, but on going down into the part that has sunken, the extent of the change is noticed. The old south lake is now a hollow pit five hundred feet deep, with a single large cone at the bottom, surrounded with black lava rocks. but showing no fire or smoke. The result of the earthquake was to completely extinguish the fires in the crater, at least for a few

The following from Mr. Formander's letter will be read with interest in this connection:

"At the crater of Kilauca the action of Thursday Volcano House), arrived in Hilo Friday forenoon, and reported that from 4 to 11 30 p. M., (the time when left), there was a continued series of heavy shocks, the earth opening and cracking in all direc-tions. At the first heavy shock (1 P. M.), the crater changed its entire appearance. The walls had tum-bled in on the south and southwest sides, and on the embankment, the sides having an angle of about forty degrees, down which the lava stones keep east side from the southeast sulphur banks to nearly the place of descent from the Volcano House. The banks of the south lake, including what was known v. but when the quantity of liquid lava, which loats and carries along the aa, is abundant, it some six times larger than before. A large chasm had opened in the neighborhood of the north lake, makes the difference between the dry aa lava and near the look-out house, running up into the woods, and cutting off the Kau road entirely. Between teresting subject of inquiry that has never been and 6 P. M., fire was discovered to have broken out in settled. They both flow from the same craters, the old Kilauea crater, to the east of the volcano, and one giving place to the other in turns. Our own at the same time the lava beds in the volcano seemed opinion is that the smooth liquid variety obtains to have settled down about 100 feet, as if the volcano had been tapped. Mr. Porter attempted to visit the old crater, but was obliged to give it up on account its character by long fusion, while the aa variety of the chasms and cracks continually opening and mixed together), consists of the interior surface of the earth torn off and thrown out during the erupbarring the way. He got sufficiently near, however, to ascertain that that old crater, which for ages has been extinct, was now all aglow with burning lava, tion. An examination of the various aa streams tends to confirm this theory.

Besides the dwelling and premises, which were probably drawn off from the volcano. The shocks, explosions, opening of new cracks and steamholes in completely burned and covered up ten feet deep all directions, threatening to isolate the Volcano House, a large steam-hole right in the gravel path in front of the house, and a chasin running all along the head of cattle, and other parties about one hundred and fifty head. These cattle appeared to be fence nearly up to the stables, and the, so to say, paralyzed on the approach of the lava, and made visible grinding of the rocks to powder by the continued action of the earthquake, admonished Mr. Porter that it was about time to leave for Hilo, and he no efforts to escape. It is difficult to estimate the loss of property in Kahuku, but it may be

> In order to make this subject clear, it should be stated that there are three craters at Kilauca -the large one, which all travelers visit; second. "old Kilauca," which is directly east of the large crater and connected with it by a narrow isthmus: and the third is "Kilauea iki," or little Kilauea southeast of the large crater and connected with the farther or south sulphur banks by a similar isthmus. This latter is seldom visited, as it is on the lee side of the crater and not so accessible. The "old crater" is the one referred to. Until the late cruption it was covered with trees, dense shrubbery and grass, and probably had not before been the scene of an active eruption for a century

From the interesting account, published in the Gazette by Dr. Wm. Hillebrand, we extract the following relating to the crater of Kilauea:

"Allow me to relate what I learnt from Kains who has resided near the volcano without interruption for the last five months, and whose strong nerves sustained h m during the fearful catastrophe introduced by the earthquake of April 21. He and the Chinaman who keeps the house, were the only persons who remained at Kilauea. He says that for two months preceding the first shock, viz., from Jan. 20 to March 29, the crater had been unusually active; eight lakes being in constant ebullition, and frequently overflowing. During all this time, (the date of its first appearance could not be ascertained exactly) there was the northwest corner a "blow-hole," from which at regular intervals, of a minute or less, with a roaring noise, large masses of vapor were thrown off, as from a steam engine. This ceased about the 17th of March. At the same time the activity of the lakes became greatly increased, and Kaina anticipated mis-chief. Two days later, Mr. Fornander found the bottom of the crater overflowed with fresh lava and in

r. n., the big earthquake occurred, which caused the ground around Kilauea to rock like a ship at sea. At that moment, there commenced fearful detonations in the crater, large quantities of lava were thrown up to a great height; portions of the wall tumbled in. This extraordinary commotion, accompanied account of his visit to the crater, from which we with unearthly noise and ceaseless swaying of the take the following: April 5th, but from the first, the fire begon to recede. On Thursday night, it was already confined to the regular lakes; on Saturday night, it only remained in the great south lake, and on Sunday night, there was none at all; Pele had left Kilauea. The noises now became weaker, and were seperated by longer intervals. By Tuesday, quiet reigned in Kilaues. On that afternoon the lava burst out at a distance of forty miles, southwest, in Kahuku.

The great South lake is transformed into a vast pit, more than 500 feet deep, the solid eastern wal projecting far over the hollow below, while the remaining sides are falling off with a sharp inclination, and consist of a confused mass of sharp au. More than two-thirds of the old floor of Kilauca has caved in, and sunk from 100 to 300 feet below the level of the remaining floor. The depression embraces the whole western half, and infringes in a semicircular line on a considerable portion of the other half. It is greatest in the northern, and rather gradual and gentle in its southern portion. Entering upon the depressed floor from the southern lake, it was some

For conclusion, see Fourth Page.

